ELECTRIC FIELD ANALYSIS IN A SWITCHGEAR
OF MIDDLE VOLTAGE

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ABSTRACT In the paper, the electric field analysis in a selected compartment of a middle voltage switchgear is presented. The analysis has been performed using a professional software package that employs the finite element method (FEM). In the considered switchgear, an insulation of SF$_6$ will be substituted by a dry air insulation that is more ecological, however, it is of the lower dielectric withstand. The electric field analysis (presented in the paper) can be a useful tool in the designing process of new electric power devices. Such a numerical analysis can help to reduce the costs of designed device prototypes and can limit their indispensable laboratory investigations. Such an approach can also enable to design smaller and more material-saving devices which are cheaper and more environmental friendly.

Keywords: power switchgears, electric field, finite element method